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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,717	04/04/2001	Tomohiro Kimura	041465-5107	1757

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MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER	
JOHNSON, TIMOTHY M	
ART UNIT	**PAPER NUMBER**
2625	4

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,717	KIMURA, TOMOHIRO	
	Examiner	Art Unit	
	Timothy M Johnson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-8 and 11-16* is/are rejected.

7)☒ Claim(s) *3,4,9 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2-3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim for Priority

1. Acknowledgment is made of applicant's claim for priority based on an application filed in Japan on April 4, 2000. It is noted, however, that applicant has not filed a certified copy of the original foreign application, JP P2000-102188, as required by 35 U.S.C. 119 (a)-(d). See MPEP 201.13 or 35 U.S.C 119 (b) in appendix L of the MPEP.

Disclosure

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The Examiner suggests the following title:

"Using Both Intra-field Dispersion and Intra-field DC Level Changes to Detect Fading in MPEG".

Claim Objections

3. Claims 2, 4, 6, 8, 10, 12, and 16 are objected to because of the following informalities:

For claims 2, 8, and 16, all on the penultimate line, "altogether" is unclear. According to Applicant's specification, both the dispersion and the DC levels are monotonically linear.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 5-6, 8, and 12-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Fernando et al., Fade and Dissolve Detection in Uncompressed and Compressed Video Sequences.

For claim 1, an image change detecting apparatus for detecting generation of a fade change in image information containing a plurality of field images is provided by Fernando in at least the abstract, where an MPEG (or H.263) video sequence for example contains frames and fields, and corresponds to Applicant's disclosed MPEG video sequence. The image change detecting apparatus comprising a dispersion value detecting device for detecting each of intra-field dispersion value in each field image is provided by Fernando in sections 3-4 on pages 300-302, by using a variance for each frame and fields corresponding to Applicant's dispersion, where Applicant's disclosure indicates that the dispersion is a measure of variation. An average direct current level detecting device for detecting each of intra-field average direct current levels in each field image is provided by Fernando in sections 3-4 on pages 300-302, where Fernando recites a mean, i.e. average, with respect to the DC levels. A detecting device for detecting whether or not the fade change occurs based on a change of the detected intra-field dispersion value and a change of the detected intra-field average direct current level is also explicitly provided by Fernando in sections 3-4 on pages 300-302.

For claim 2, the image change detecting apparatus according to claim 1, wherein the detecting device detects that the fade change occurs in the plurality of the continuous field images when the detected intra-field dispersion value and the detected intra-field average direct current level change linearly altogether relevant to a plurality of the continuous field images is provided by Fernando in Figs. 1-2, where the DC is linear during the fading in and out, and the dispersion variance is substantially linear, and is linear in portions during the fading in and out, and as an additional argument, the two metrics together are linear within the fading regions in Fig. 3.

For claim 5, the image change detecting apparatus according to claim 1, wherein the detecting device detects that the fade change from the field images of single black color occurs in the plurality of the continuous field images relevant to the plurality of the continuous field images when the detected intra-field dispersion value and the detected intra-field average direct current level each have a positive gradient and changes linearly is provided by Fernando in Figs. 1-2, where the DC is linear during the fading in and out, and the dispersion variance is substantially linear, and is linear in portions during fade in from black or a solid color (e.g. black) as taught by Fernando in section 2 on pages 299-300.

For claim 6, see the rejection of at least claim 5.

For claim 8, see the rejection of at least claim 2.

For claim 12, see the rejection of at least claim 5.

For claim 13, see the rejection of at least claim 1.

For claim 14, see the rejection of at least claim 2.

For claim 15, see the rejection of at least claim 1, and note that Fernando explicitly provide for an "algorithm" in at least the abstract.

For claim 16, see the rejection of at least claim 2.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fernando et al., Fade and Dissolve Detection in Uncompressed and Compressed Video Sequences, as applied to claims above, and in view of Legall et al., 5,872,598.

For claim 7, an image encoding apparatus including an image change detecting apparatus for detecting generation of a fade change in image information containing a plurality of field images, the image change detecting apparatus comprising: a dispersion value detecting device for detecting each of intra-field dispersion value in each field image; an average direct current level detecting device for detecting each of intra-field average direct current levels in each field image; and a detecting device for detecting

whether or not the fade change occurs based on a change of the detected intra-field dispersion value and a change of the detected intra-field average direct current level is provided by Fernando where cited above for claim 1. The image encoding apparatus further comprising: an encoding device for changing an encoding parameter in encoding of the detected subsequent image information, thereby encoding the image, when it is detected that the fade change occurs is not explicitly provided by Fernando, although this is a very common use such as for scene change detection. Legall similar to Fernando, uses the DC average and alternatively use a dispersion by activity, and provide for changing the encoding parameter in at least section G in c. 12 to send an indication to the coders controller to change the sequence of an appropriate frames, so that in the case of a scene change, either a P or I frame is used. It would've been obvious to one having ordinary skill in the art at the time the invention was made to change the parameter of the encoding based on the fade detection, since Legall teaches changing to an I or P frame, which provide for higher fidelity than B frames as well as a decreased number of bits in the case of fading as taught by Legall in section G in c. 12.

For claim 11, see the rejection of at least claim 5.

Allowable Subject Matter

8. Claims 3-4 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M Johnson whose telephone number is 703-306-3096. The examiner can normally be reached on Monday – Friday from 5:30 to 2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta, can be reached on Monday – Friday from 9:30 to 5:00. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Timothy M. Johnson
Patent Examiner
Art Unit 2625
March 01, 2004

TIMOTHY M. JOHNSON
PRIMARY EXAMINER